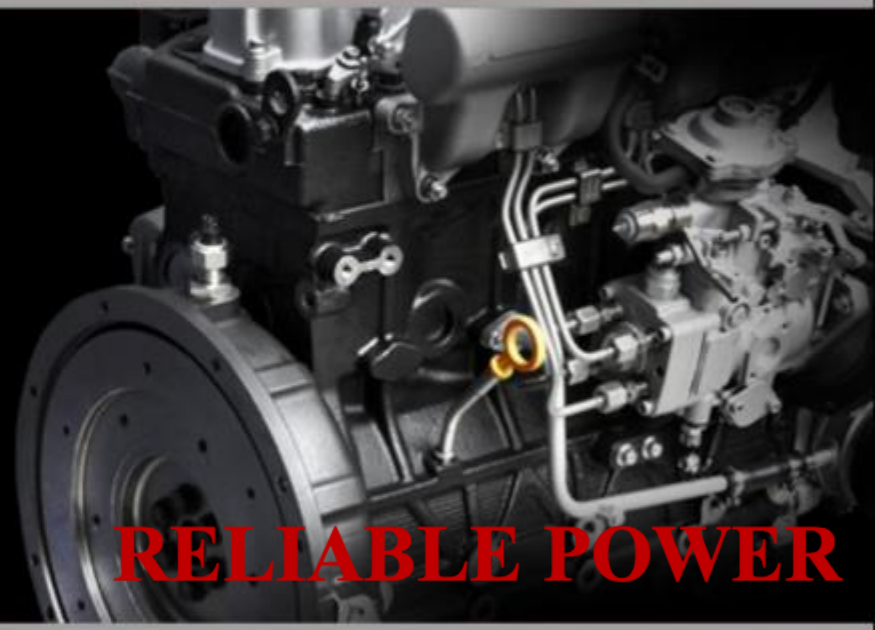
RPT – Raywin Marine Presentation

RAYWIN



RELIABLE POWER

Special Vehicle Sector

Marine Sector

Construction Sector

Agriculture Sector

Power Generation Sector

Raywin Engines

A RATO Group Company

For Marine Propulsion/Auxiliary

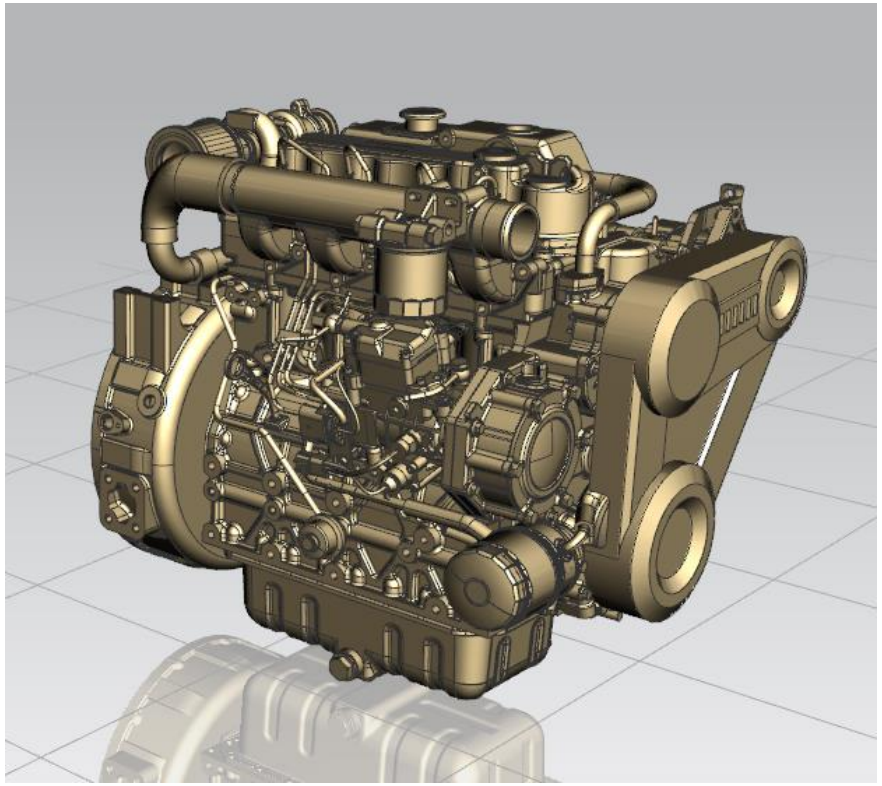
Core Platform

Basis on non road variable speed engine, Raywin marine propulsion engine, focus on Inland fishing vessel, work boat and Inshore fishing vessel, etc.

Marine Componets: Heat Exchanger、Sea Water Pump、Water Cooled Exhaust etc.

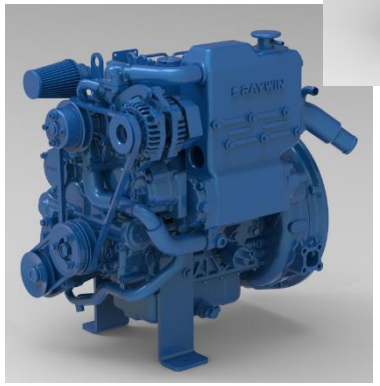
Engine Platform：3C11、4D24、4D24T

Homologation：CCS



4D24

4D24T



3C11

Characteristic：

- Electronically controlled fuel supply system, low vortex ratio air passage, porous small-aperture injector, strong power, excellent performance and good economy;
- Optimized by NVH, low noise, low vibration and small heat load, reaching the advanced level of similar international models;
- Modular design, high integration;
- Can be relayed and remotely monitored, easy to operate;
- Provide an overall solution with complete configuration;
- Adopt international well-known brand fuel pumps: electronically controlled rotor pumps, whose rate of adjustment is within 1%, to meet the country III; Starnard DB pumps, whose rate of adjustment is within 5%, can meet EⅢA emission standards.
- The engine's overall integrated design, according to customer needs, optional integrated water temperature, oil pressure, speed and other digital display instruments
- The engine has excellent propulsion characteristics and can be used as the main power of small ships and speedboats;

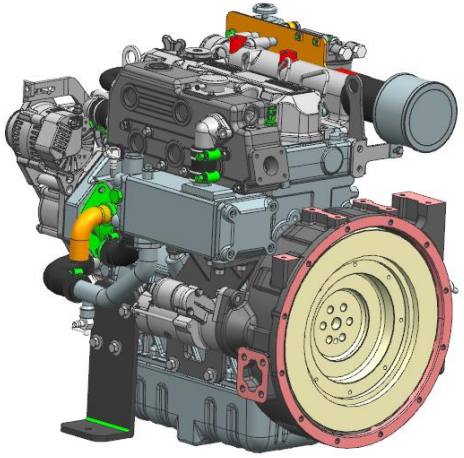
Basic Engine Information

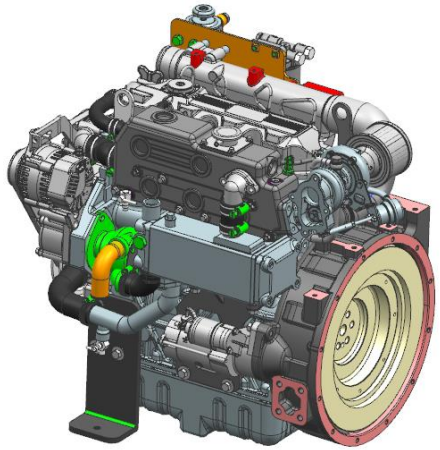
Model	4D24T Series	4D24 Series	3C11 Series
Engine Type	Vertical in line, Water Cooled, Four Stroke		
Combustion System	Direct Injection		Indirect Injection
Cylinder No.	4		3
Bore x Stroke mm x mm	87×103		76×78.4
Displacement（L）	2.45		1.07
Compression Ratio	17.8:1	19:1	24:1
Induction System	Turbocharged	Naturally Aspirated	Naturally Aspirated

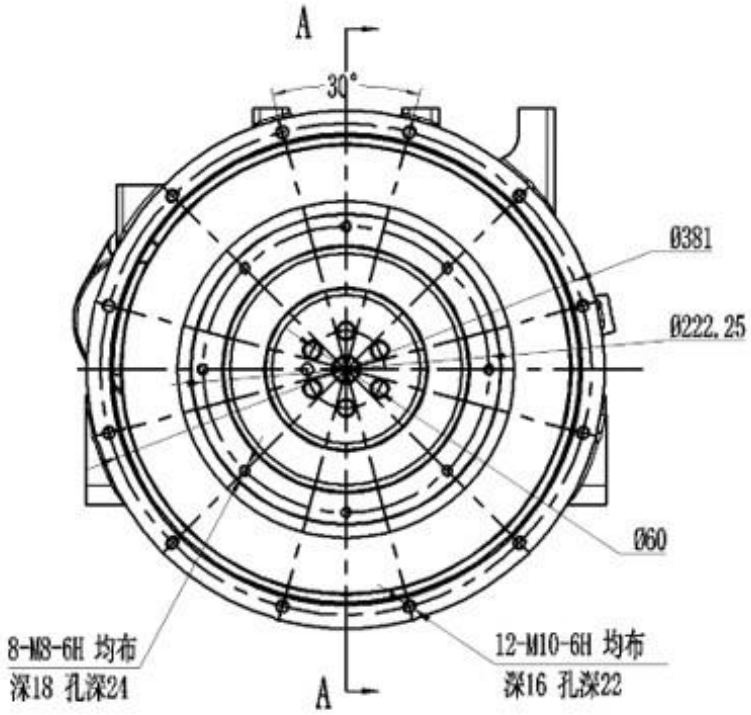
Engine Specification :	Core Engine, Air Filter, Oil Filter, Fuel Filter, Pre-filter, Oil Pressure Sensor， water temperature sensor, 12V System, SAE4#,7.5inch /SAE5# ,6.5inch Package

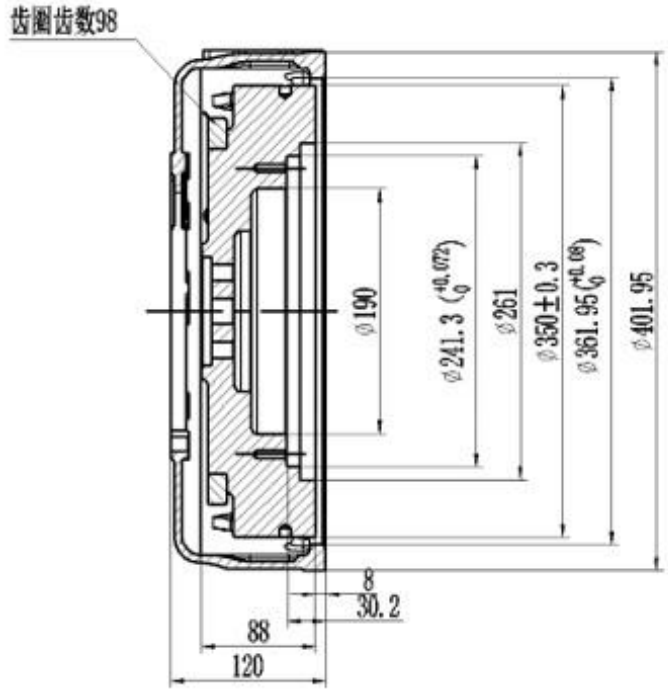
Max speed : 3000rpm for 4D24 & 4D24T, 3600rpm for 3C11

4 Cylinder Engine





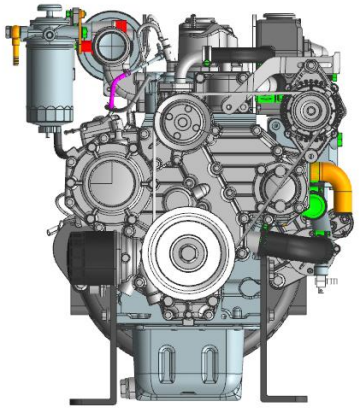


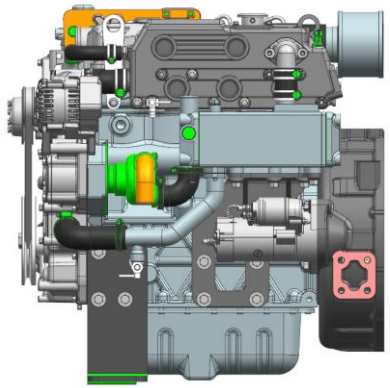


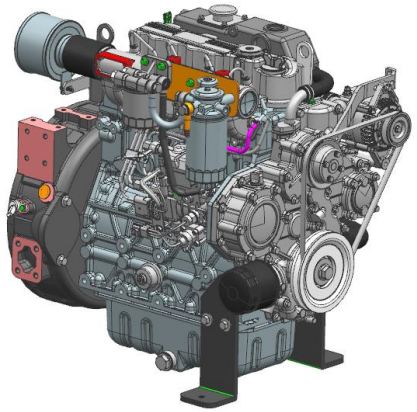
SAE4/7.5 inch

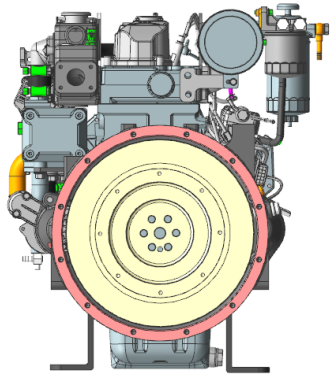
4 Cylinder Engine

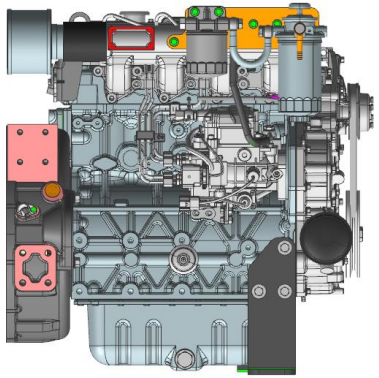
4D24 Naturally Aspirated Series

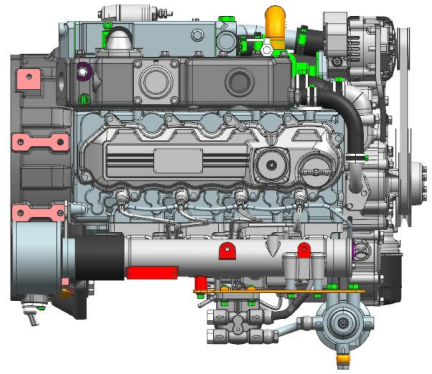






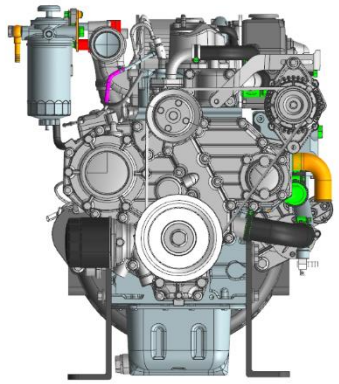


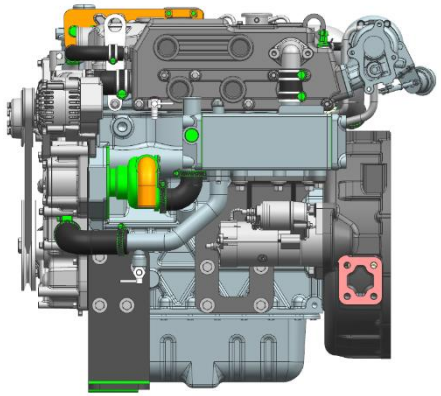


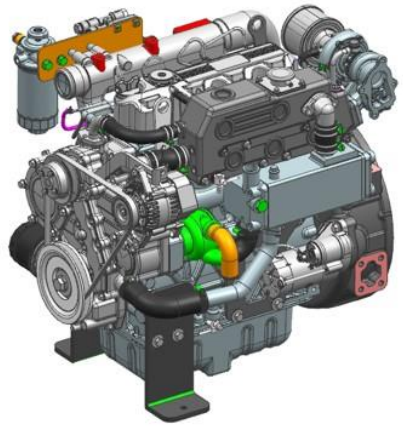


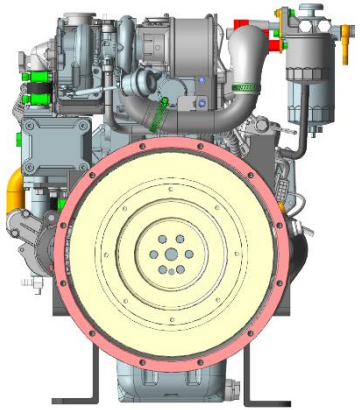
4 Cylinder Engine

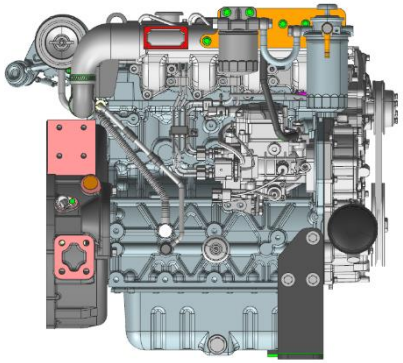
4D24T Turbocharged Series

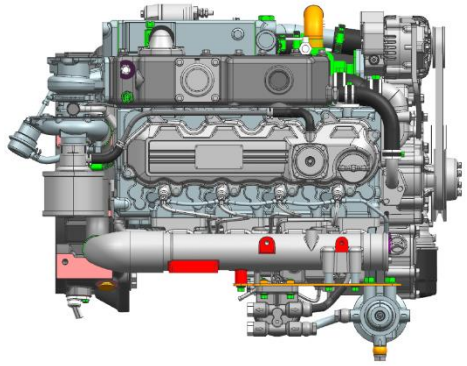










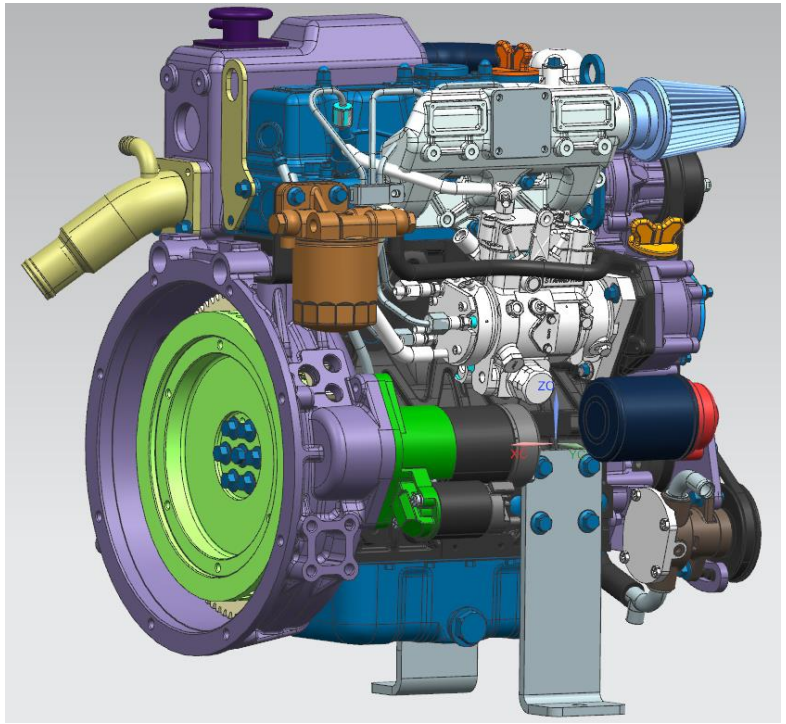


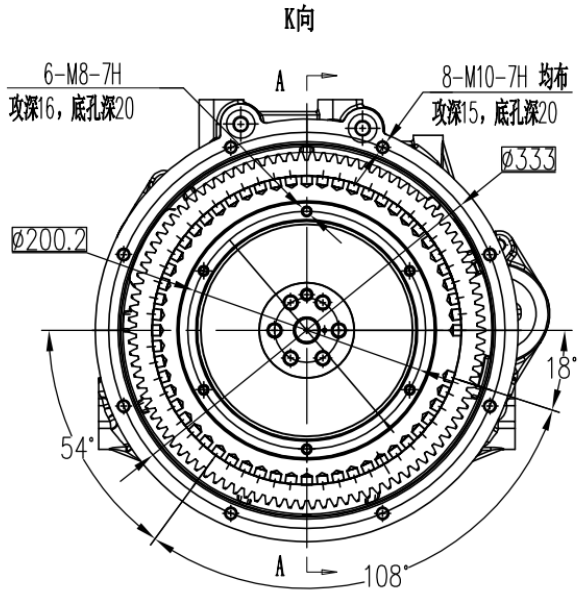
4 Cylinder Engine Type

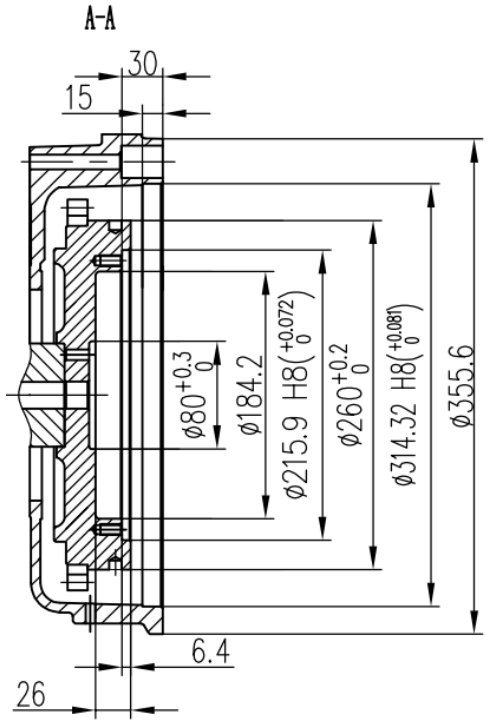
Marine Propulsion					
No.	Emission	Model	Power/kw	Sped/rpm	Air Intake
1	Non	4D24T09/F	48	3000	Turbo
2	RCD2	4D24T03/A	48	2700	Turbo
3	Non	4D24T00/F	48	2700	Turbo
4	Stage IIIA	4D2400/A	36.8	3000	NA
Marine Auxiliary					
No.	Emission	Model	Power/kw	Sped/rpm	Air Intake
1	Stage IIIA	4D24G0/A	33.5	3000	NA
2	Stage IIIA	4D24G2/A	21.5	1500	NA
3	Stage IIIA	4D24G4/A	18.5	1500	NA
4	Stage IIIA	4D24G1/A	27	1800	NA
5	Stage IIIA	4D24G3/A	22	1800	NA
6	Stage IIIA	4D24TG0/A	36	1500	Turbo
7	Stage IIIA	4D24TG1/A	32	1500	Turbo
8	Stage IIIA	4D24TG2/A	28	1500	Turbo
9	Stage IIIA	4D24TG3/A	36	1800	Turbo
10	Stage IIIA	4D24TG7/A	32	1800	Turbo
11	Non	4D24TG4/N	40	1800	Turbo

3 Cylinder Engine

3C11 Naturally Aspirated Series



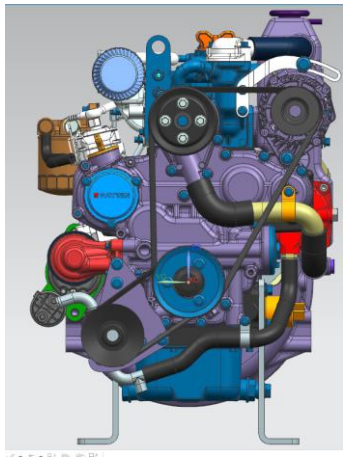


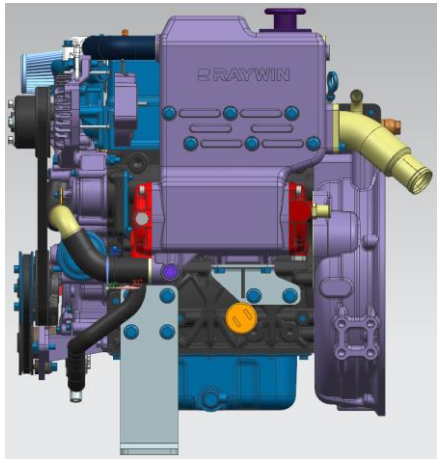


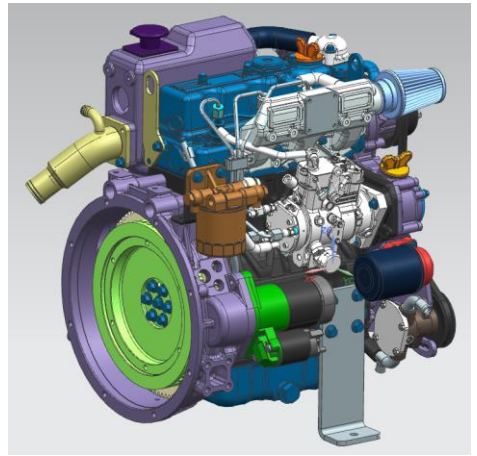
SAE5/6.5 inch

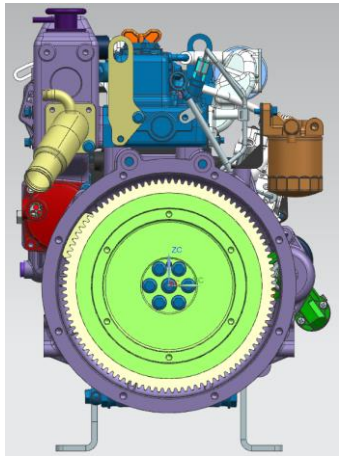
3 Cylinder Engine

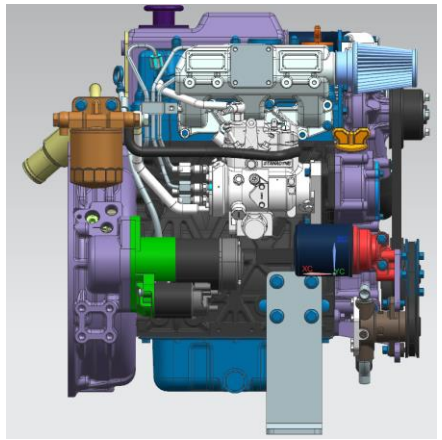
3C11 Naturally Aspirated Series

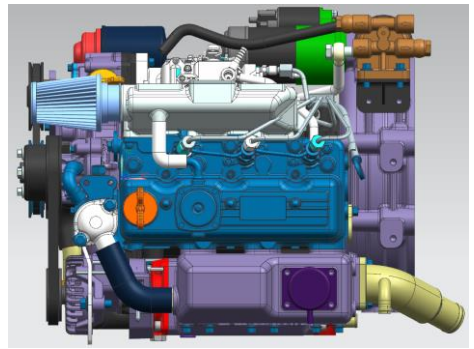












3 Cylinder Engine Type

ECO Pump Marine Propulsion

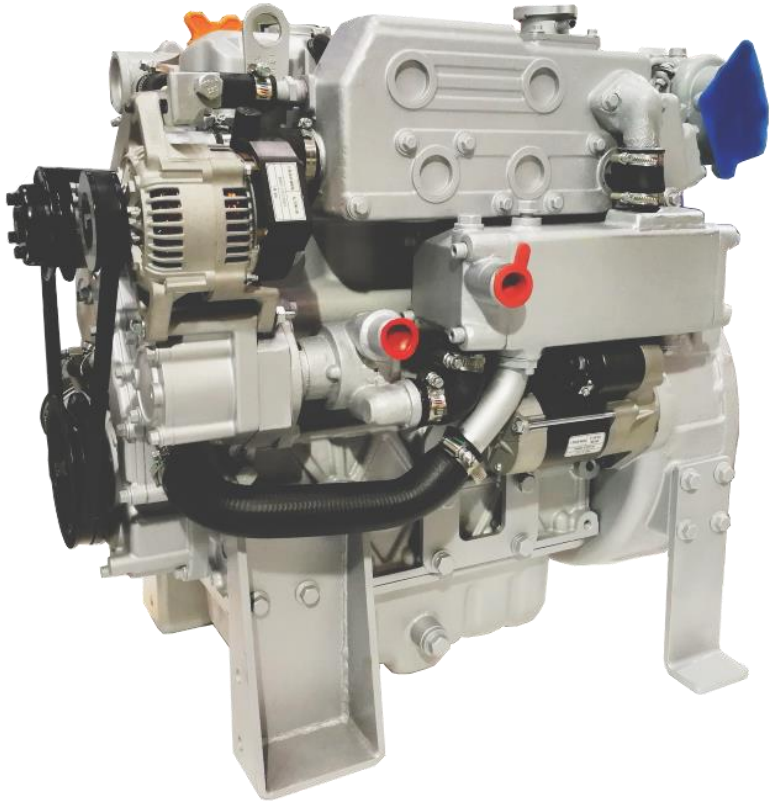
No	Emission	Model	Power/kw	Speed/rpm	Air Intake
1	Stage IIIA	3C1100/A	18.5	3600	NA
2	Stage IIIA	3C1101/A	18	3400	NA
3	Stage IIIA	3C1102/A	17.5	3000	NA
4	Stage IIIA	3C1103/A	17	2800	NA
5	Stage IIIA	3C1104/A	16.3	2600	NA
6	Stage IIIA	3C1105/A	15	2500	NA
7	Stage IIIA	3C1106/A	14	2400	NA

ECO Pump Marine Auxiliary

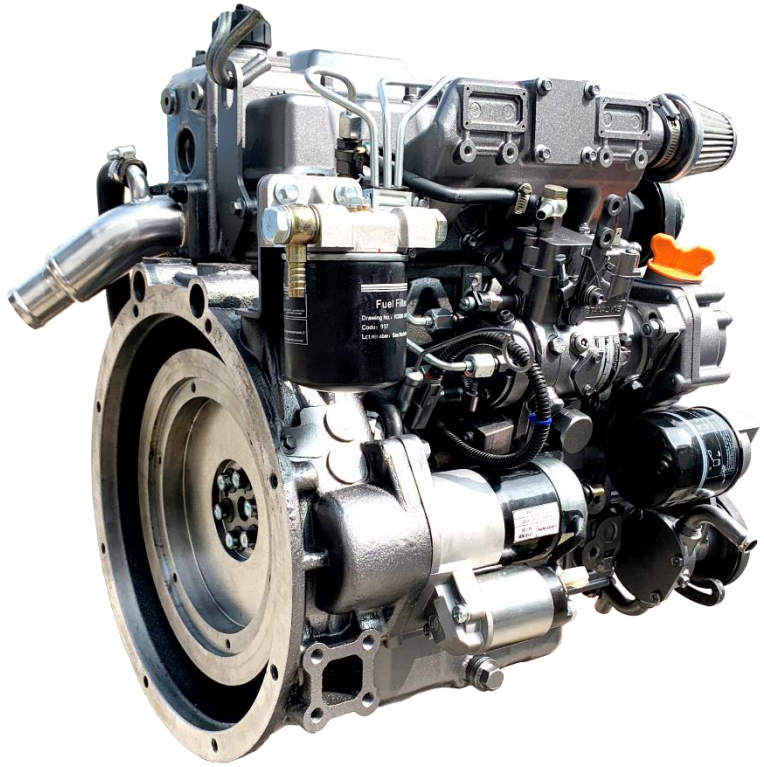
No	Emission	Model	Power/kw	Speed/rpm	Air Intake
5	China III	3C11G0/A	18.5	3600	NA
6	Stage IIIA	3C11G1/A	17.5	3000	NA
7	Stage IIIA	3C11G2/A	11.1	1800	NA
8	Stage IIIA	3C11G3/A	9.1	1500	NA

RAYWIN

Marine engine



4D24 Naturally Aspirated Series



3C11 Naturally Aspirated Series

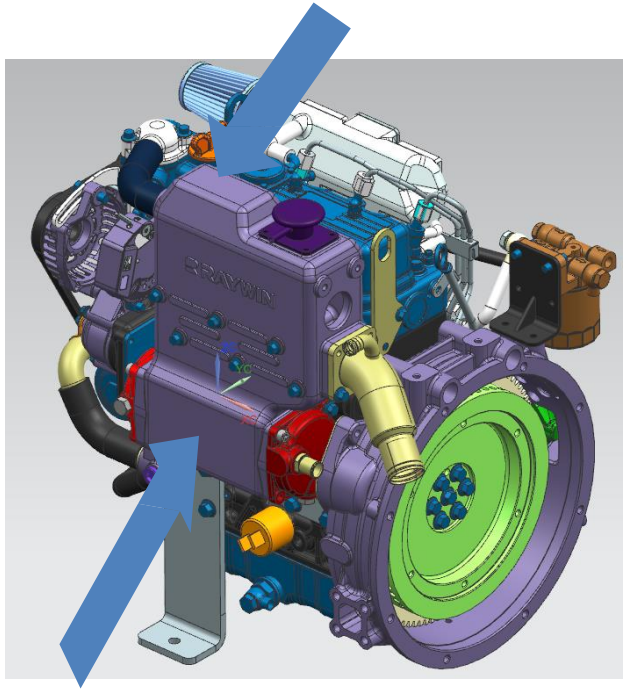
Marine engine

Engine Cooling Options:

Heat Exchanger Type： Fresh Water

Installation Information		
Model	**Approximate Weight (Kg)**	**Dimension (L x W x H, mm)**
3C11	125	590×435×565
4D24	200	982×534×775
4D24T	210	679×524×664

Water Cooled Exhaust Manifold integrated with Expansion Tank



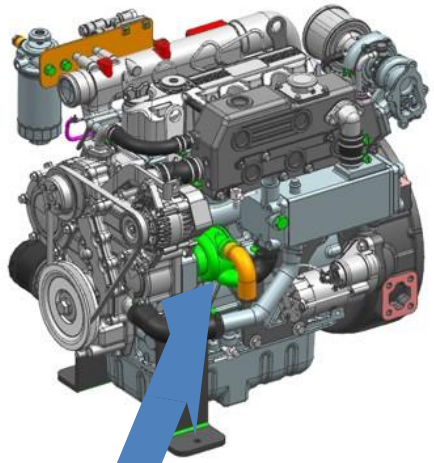
Heat Exchanger

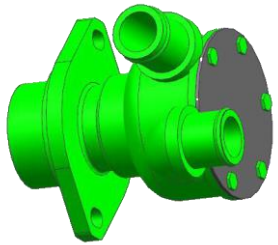
Marine engine

Engine Cooling Options:

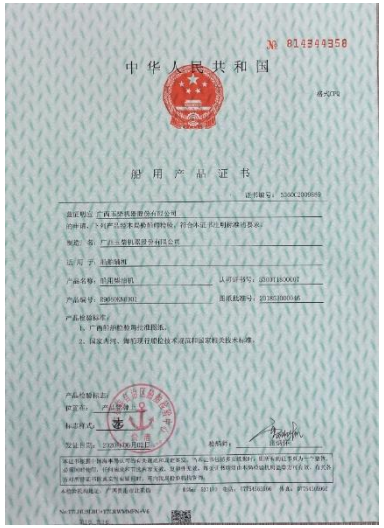
2、**Heat Exchanger Type**：Sea Water

Installation Information		
Model	**Approximate Weight (Kg)**	**Dimension (L x W x H, mm)**
4D24	200	982×534×775
4D24T	210	679×524×664





Sea Water Pump



中华人民共和国

船用产品证书

ZC Certificate

中国船级社
CHINA CLASSIFICATION SOCIETY
船用产品证书
CERTIFICATE OF MARINE PRODUCT

CCS Certificate

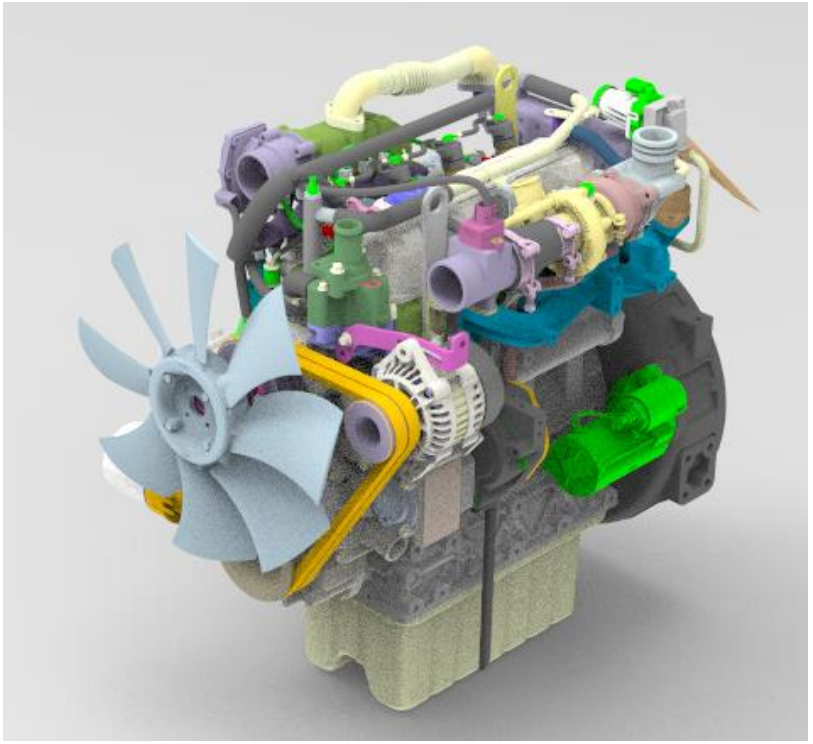
EU Type Examination Certificate

Recreational Craft and Personal Watercraft Directive

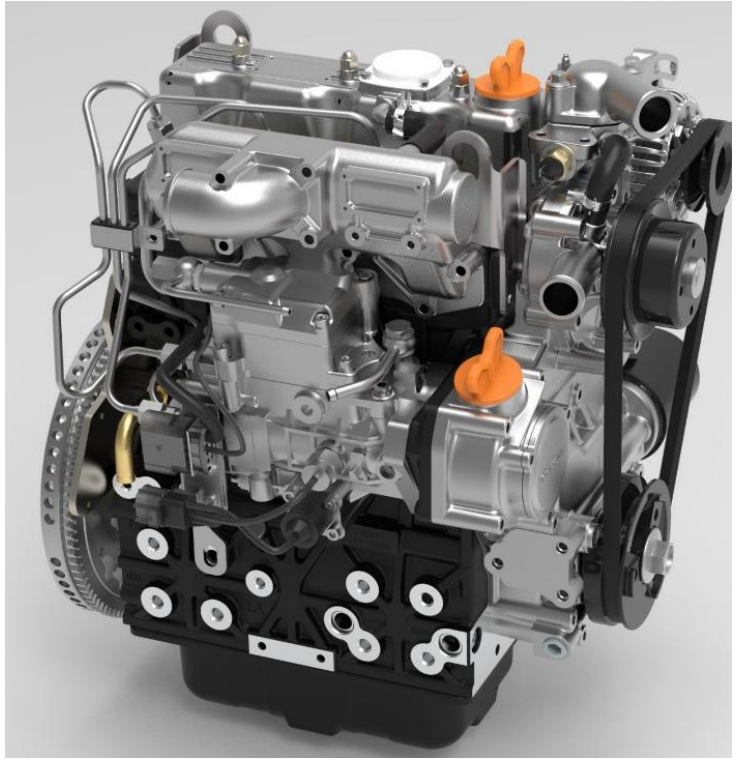
Recreational Craft and Personal Watercraft Directive
2013/53/EU
EU Type Examination Certificate

RCD

Stage V (launching soon)



4 Cylinder engine



3 Cylinder engine

For more optional accessories:
Such as sensors, control panel or monitor,ect. Please contact Raywin to customized your options.

Type Approval & Certificate:
Emission Certificate: Currently, some of Raywin engines which power under 37kW has EU StageIIIA emission certificate. Raywin also can homoligate above 37kW which following the emission regulation R96 for StageIIIA emission level if necessary, Our EU stage V programme is on course with 3 cylinder launch scheduled for October 2020 and 4 Cylinder launch for January 2021.

Fire Pump Engine Certificate: Currently, Raywin did not apply UL or FM certificate,however Raywin can assist customers to get it if necessary.

THANKS !

Rajesh Sadhu
Vice President